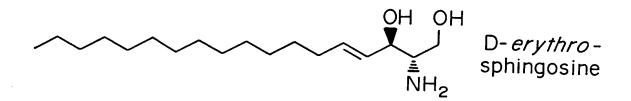
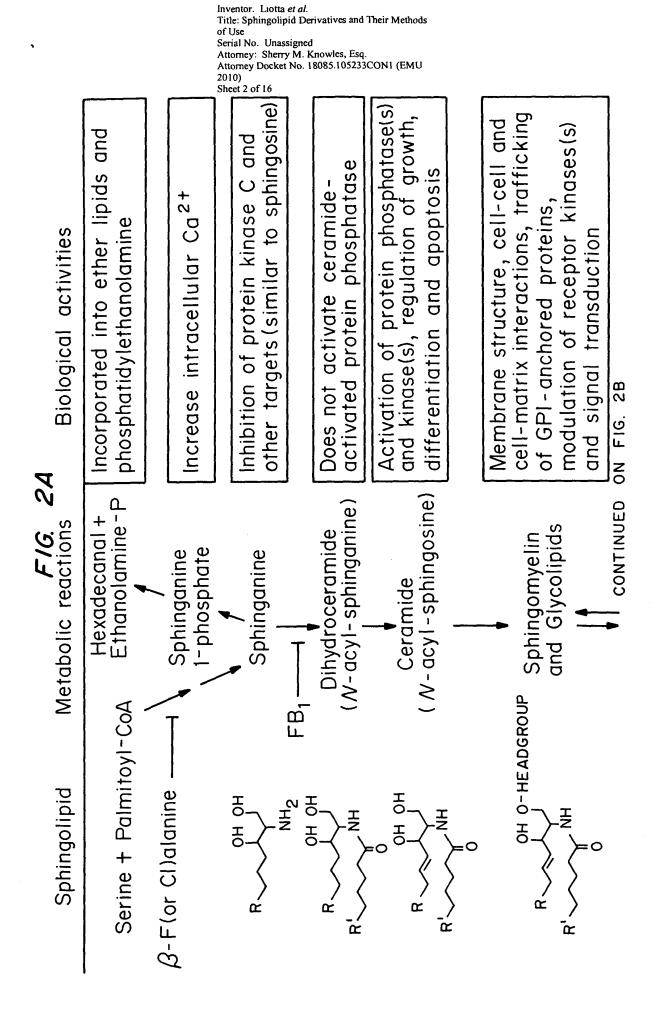
Inventor: Liotta et al.
Title: Sphingolipid Derivatives and Their Methods

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F16 2B

Activation of protein phosphatase(s) and kinase(s), regulation of growth, phosphatidic acid phosphatase, and phosphatidylethanolamine Incorporated into ether lipids Inhibition of protein kinase C differentiation and apoptosis and other effects on signal Increase intracellular Ca²⁺ tranduction pathways Ethanolamine -P (N-acyl-sphingosine Hexadecenal + Sphinganine 1-phosphate Sphingosine Ceramide FB1 -

Inventor. Liotta et al.

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F/G. 3A

Sphingolipid

Examples of Biological Activities

OH CH2OH

Sphingosine

Inhibition of Protein kinase
C, Na+/K+ ATPase Phosphatidic Acid Phosphatase
Activation of Phospholipase
C&D, EGF Receptor
Phosphorylation, Protein
kinase(s)
Inhibition of Cell Transformation, ODC Induction,
Tumor Invasion/Metastasis
Stimulation/Inhibition of
Growth/Differentiation

CONTINUED ON FIG. 3B

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Sphingosine 1-phosphate

Activation of
Phospholipase D
Release of Intracellular
Calcium
Stimulation of Cell Growth

FIG. 3B

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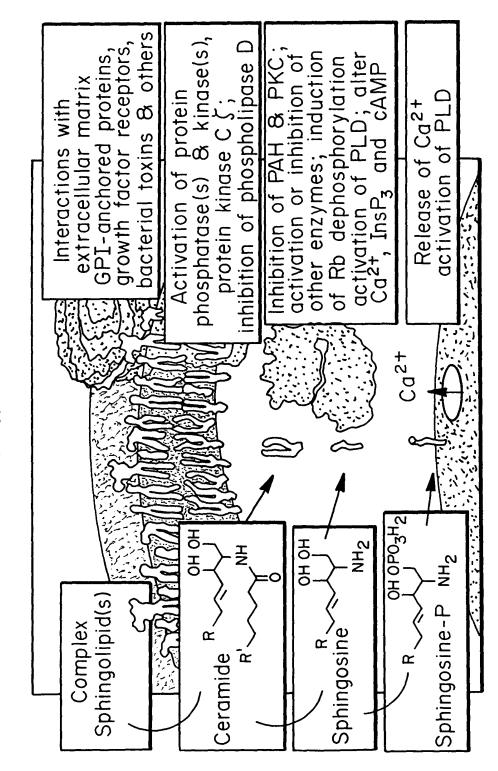
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Sphingosine

Fumonisin

Fumonisin B₂

Fumonisin B_3

FIG. 5A

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OR OH CH3 OR CH₃

Fumonisin B₄

OR1 OH OH

$$CH_3 OR_1 CH_3 OH NH_2$$
 $R_1 = H OR R$

Alternaria toxins (AAL toxins)

R = COCH₂CH(COOH)CH₂COOH

$$X \xrightarrow{OH} V$$
 $X \xrightarrow{NH_2 Y} Spacer Group — $Z \longrightarrow W$$

Fumonisin Analogs

FIG. 5B

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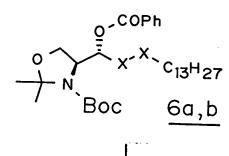
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$$0 \sim COOMe$$
 $0 \sim COOMe$
 $0 \sim$



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Reagents and conditions: (a) iPr₂NP(OMe)CI/Et₃N/CH₂CI₂; (b) Choline tosylate/ Tetrazole/MeCN/THF; (c)t-BuOOH/MeCN; (d)t-BuNH₂/CH₂CI₂;(e)MeONa/MeOH

F1G. 7

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FIG. 8

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FIG.

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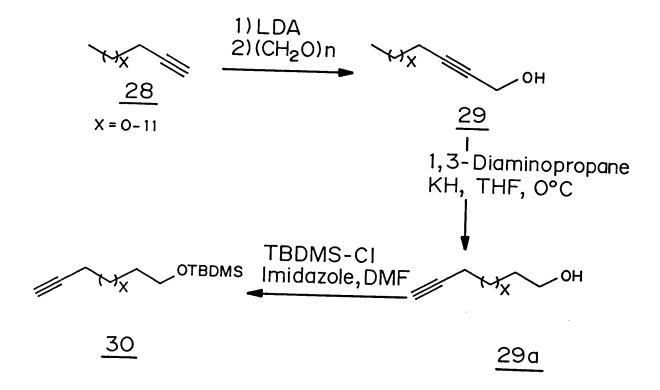


FIG. 10

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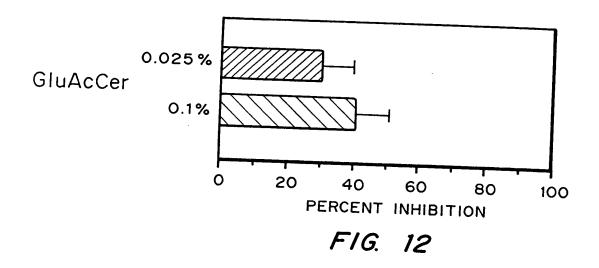
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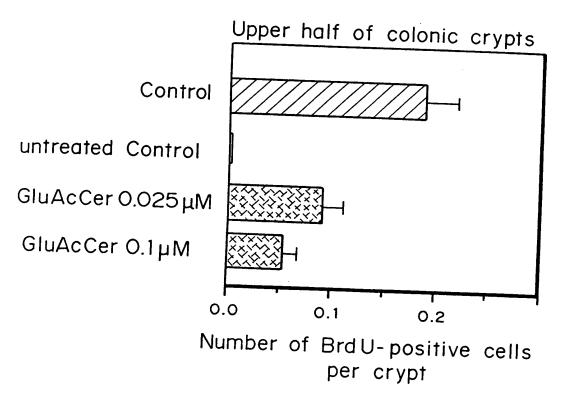


FIG. 13A

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